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EXAMINER	
JARRETT, SCOTT L	

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3624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/676,668	LI ET AL.	
	Examiner	Art Unit	
	SCOTT L. JARRETT	3624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-22 and 24-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-22 and 24-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Non-Final Office Action is in response to Applicant's request for continued examination on May 11, 2009 and amendment filed May 21, 2009. Currently claims 1-57-22 and 24-32 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 11, 2009 has been entered.

Response to Amendment

3. The 35 U.S.C. 112(2) rejection of claim 10 in the previous office action is withdrawn in response to Applicant's amendments to claim 10.

The 35 U.S.C. 101 rejection of Claims 4, 5 and 7-14 is withdrawn in response to Applicant's amendments to claims 4, 5 and 7-14.

It is noted that the applicant did not adequately challenge the officially cited facts in the previous office action(s) therefore those statements as presented are herein after prior art. Specifically it has been established that it was old and well known in the art at

the time of the invention to: invert (flip, inverse, etc.) one or more factors (weights, variables, parameters, etc.) is a common statistical and mathematical technique; to use smoothing other techniques in statistical analysis and/or forecasting; and to separate (decompose, de-trend, removing noise, splitting, etc.) demand data into its various components, one of which is the base/baseline demand data.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 12, Claim 12 recites the limitation "the second time period" in Claim 11. There is insufficient antecedent basis for this limitation in the claim. Examiner interpreted the claim to read the second week and/or second day. Appropriate correction required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts, Attribute Smoothing - A Pattern Forecasting Technique (1997) in view of Landvater, U.S. Patent No. 6,609,101.

Regarding Claims 1-3 Roberts teaches a method comprising:

- a module (software, subsystem, routine, method, logic, etc.) to calculate a second weighting factor of a second time period based on a first weighting factor of a first time period, the fist time period preceding the second time period (Daily Factors; Figure on Page 1; Column 2, Paragraphs 1-2, Page 1); and

- the module to determine a demand for a set of products for a plurality of subdivisions of the second time period based on the second weighting factor and historical demand data, the second weighting factor being a percentage of the demand for one subdivision of the plurality of subdivisions of the second time period (Daily Factors; Figure on Page 1; Column 2, Paragraphs 1-3, Page 1; Column 1, Paragraph 2, Page 2; Column 2, Bullets 2, 3, Last Paragraph, Page 3; Table Page 4); and

- a data structure to store actual demand data from the second period of time (Figure on Page 1; Figure on Page 2; Column 2, Paragraph 2, Page 3)

Roberts does not expressly teach a demand order module including a set of products to be shipped to a target location or a system (software, modules, processing device, storage device, etc.) for executing the method as claimed.

Landvater teaches a system and method comprising a (demand order) module including a set of products to be shipped to a target location (Column 1, Lines 11-18; Column 2, Lines 1-5; Figures 2, 5) in an analogous art of forecasting.

Landvater further teach that the system/method comprises a processing device to execute the module; and a storage device to store the (demand projection) module (Figures 2-4; Column 3, Lines 1-68).

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by Roberts would have benefited from including (demand order) module including a set of products to be shipped to a target location as taught by Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Further it was known at the time of the invention that merely providing an automatic means to replace a manual activity which accomplishes the same result is not

sufficient to distinguish over the prior art, In re Venner, 262 F.2d 91,95, 120 USPQ 193, 194 (CCPA 1958). For example, simply automating the step of calculating a weighting factor or determining a demand results in what you would expect from the manual step as shown in Roberts. In other words there is no enhancement found in the claimed step. The claimed apparatus comprising modules only provides automating the manual activity. The end result is the same as compared to the manual method. A computer can simply iterate the steps faster. The result is the same.

Accordingly, it would have been obvious to a person of ordinary still in the art at the time of the invention to automate the calculating and determining steps because this would speed up the forecasting process, which is purely known, and an expected result from automation of what is known in the art.

8. Claims 4-5, 7-8, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makridakis et al., Forecasting Methods and Applications (1998) in view of Roberts, Attribute Smoothing - A Pattern Forecasting Technique (1997) in view of Landvater, U.S. Patent No. 6,609,101.

Regarding Claim 4 Makridakis et al. teach a method comprising (Section 4/2/2, Pages 142-146; Section 4/3, Pages 147-171):

- forecasting total demand for a second time period (Figures 4-4, 4-5, 4-8) by a (demand projection) module (software, program, etc.; Appendix I, Pages 578-583);

- calculating a second weighting factor for a plurality of subdivisions (internals, periods, days, etc.) by the (demand projection) module wherein calculating the second weighting factor comprises (Section 4/2/2, Pages 142-146; Section 4/3, Pages 147-171):

- applying a smoothing factor (constant, weight, index, value, parameter, etc.) to new demand data to produce a first result (Equations 4.3, 4.4, 4.5; Table on Page 149; Table 4.3);

- applying an inverted smoothing factor to a first weighting factor to generate a second result, the first weighting factor corresponding to a first time period, the first time period preceding the second time period (Equation on Page 142; Equation 4.3; Last Two Paragraphs, Page 145; Figure 4-5); and

- adding the first result and the second result (moving average, exponential smoothing; Equation on Page 142; Last Paragraph, Page 143; Equations 4.3, 4.4); and

- projecting future demand by the (demand projection) module (software) during the second time period, for a subdivision based on the second weighting factor and historical demand data (observed data; Figures 4-4, 4-5, 4-8, 4-10).

Makridakis et al. does not expressly teach that the time period/subdivisions are the days of the week (first day, first week, etc.) as claimed.

Roberts teaches forecasting demand days of the week (first/second day of the week, first/send weeks within time period; Daily Factors; Figure on Page 1; Column 2, Paragraphs 1-2, Page 1) in an analogous art of forecasting.

More specifically Roberts teaches a method comprising:

- forecasting a total demand for a second week (Page 1; Column 2, Paragraphs 1-2, Page 1; Figure on Page 2);

- calculating a second weighting factor (daily factor) for a second day of the second week by the module, the second weighting factor being a percentage of the total demand for the second day out of all days of the second week (Column 1, Last Paragraph, Page 1; Column 2, Paragraphs 1-2, Page 1; Figure on Page 1);

- the first weighting factor corresponding to a first day of a first week preceding the second week, the first day being the same day of the week as the second day (Column 2, Page 1; Figure 1 Page 1); and

- projecting future demand during the second week for a second day based on the second weighting factor and historical demand data (Column 2, Page 1; Column 1, Paragraphs 2-3, Page 2; Figure Page 2);

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by Makridakis et al. would have been utilized to forecast demand for any of a plurality of time periods/subdivisions/intervals including but not limited to a first day of a first week and/or a second day of a second week in view of the teachings of Roberts, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Further, it is noted that forecasting using any of a plurality of well known time intervals, including but not limited to day of the week, is old and very well known (e.g. Lee et al., U.S. Patent No. 5,712,985: Column 3, Lines 40-52; Column 13, Lines 47-64; Column 14, Lines 15-25; Grossman et al., U.S. Patent No. 5,436,965: Column 9, Lines 34-44, "The fifth parameter table is the smoothing parameter table which is used for performance forecasts and contact probability determination. The campaign optimizer performance *forecasts are produced by exponential smoothing for each hour of the day and each day of the week and the smoothing parameter, which determines how heavily weighted recent observations are*, is in the smoothing parameter table", emphasis

added; Peharda et al., Short term hourly forecasting of gas consumption using neural networks (2001): Paragraphs 2,4, Page 367; Figure 1; Table 1)

Neither Makridakis et al. nor Roberts expressly teach shipping good based on the projected future demand in response to the future demand not exceeding a threshold value; or shipping the goods based on a forecasted demand prior to the second week (time period) for the goods when the future demand exceeds the threshold value as claimed.

Landvater teaches shipping good based on the projected future demand in response to the future demand not exceeding a threshold value (tolerance, levels, point, etc.); and shipping the goods based on a forecasted demand prior to the second week (time period) for the goods when the future demand exceeds the threshold value (safety stocks, safety time, excess inventory; Column 18, Lines 21-51; Figure 19, Element 340) in an analogous art of forecasting.

More generally Landvater teaches a system and method comprising:

- forecasting a total demand for a time period (Column 4, Lines 1-34, 53-68; Column 8, Lines 63-68; Column 9, Lines 1-10);

- calculating (determining) a weighting factor for a plurality of subdivisions of the time period (Column 11, Lines 53-68; Column 13, Lines 2—29; Column 19, Lines 37-68; Column 20, Lines 1-20);

- projecting future demand, during the time period, for a subdivision based on the weighting factor and historical demand data (Column 11, Lines 53-68; Column 13, Lines 2—29; Column 19, Lines 37-68; Column 20, Lines 1-20);

- initializing the weighting factor to an equal value for each subdivision (Column 19, Lines 37-68; Column 20, Lines 1-20);

- multiplying total demand by the weighting factor and a ratio (percentage, fraction, etc.) of actual demand and forecast demand (Column 11, Lines 53-68; Column 12, Lines 41-68; Column 13, Lines 1-29; Column 19, Lines 40-68; Figure 12);

- accounting for the effects of promotions on baseline demand (non-promotional periods, demand data (Column 2, Lines 10-27; Column 5, Lines 7-16, 38-48; Column 17, Lines 5-24; Figure 19).

- wherein the smoothing factor biases the weight factor in relation to historical demand (Column 4, Lines 53-68; Column 11, Lines 53-68; Column 12; Figure 11).

Landvater further teaches a system and method comprising:

- means for calculating a first weighting factor, being a percentage of demand for the first day out of all days of the first week, of a first day of a first week (Column 13, Lines 5-28);

- means for calculating a second weighting factor of a second day of a second week based on the first weighting factor, the second week following the first week, the second weighting factor being a second percentage for the second day out of all days of the second week (Column 13, Lines 5-28).

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by the combination of Makridakis et al. and Roberts would have benefited from shipping good based on the projected future demand in response to the future demand no exceeding a threshold value; and shipping the goods based on a forecasted demand prior to the second week for the goods when the future demand exceeds the threshold value in an analogous art of forecasting in view of the teachings of Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 5 Makridakis et al. teach a method further comprising initializing the second weighting factor to an equal value for each subdivision (Paragraph 1, Page 147).

Regarding Claim 7 Makridakis et al. teach a method wherein projecting future demand comprises multiplying total demand by a second weighting factor and a ratio of actual demand and forecast demand (Pages 144-145; Equation 4.5; Table 4-3).

Regarding Claim 8 Markidakis et al. does not expressly teach adjusting future demand forecast based on an out of stock calculation as claimed.

Landvater teaches a system and method further comprising adjusting future demand forecast based on an out-of-stock (shortfall, shortage, stock out) calculation (e.g. safety stock to avoid a stock-out/shortage; Column 3, Lines 40-48; Column 14, Lines 23-58) in an analogous art of forecasting for the purpose of avoiding out-of-stock situations.

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Makridakis et al. and Roberts would have benefited from adjusting future demand based on an out of stock calculation in view of the teachings of Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 10 Makridakis et al. teach a method wherein the smoothing factor biases the second weighting factor in relation to historical demand (Section 4/3, Page 147, Paragraphs 1-3; Table on Page 149; Figures 4-4; Tables 4-3, 4-5).

Regarding Claim 11 Makridakis et al. does not expressly teach selecting one of a forecast or projected demand based on a threshold value as claimed.

Landvater teaches a system and method further comprising selecting one or a forecast demand and a projected demand based on a threshold (target, benchmark, required, set, tolerances, etc.) value (Column 11, Lines 25-31; Column 18, Lines 3-14; Column 19, Lines 50-65; Column 20, Lines 17-20) in an analogous art of forecasting.

It would have been obvious to one skilled in the art at the time of the invention would have benefited from selecting one or more forecasting/projected demand based on a threshold in view of the teachings of Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 12 Makridakis et al. does not expressly teach that the threshold value is a ratio of cumulative sales data for a subdivision of the second time period and cumulative forecast data for the subdivision of the second time period as claimed.

Landvater teaches a system and method wherein the threshold value is a ratio of cumulative sales data and cumulative forecast data for a subdivision of the second time period (e.g. override percentages; Column 18, Lines 3-14; Column 19, Lines 50-65; Column 20, Lines 17-20) in an analogous art of forecasting.

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Makridakis et al. and Roberts would have benefited from utilizing a threshold value that is a ration of cumulative sales and forecast data in view of the teaching of Landvater since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 13 Makridakis et al. does not expressly each that the projected future demand is utilized when a minimum amount of historical data is received as claimed.

Landvater teaches a system and method wherein the projected future demand is utilized when a minimum amount of historical data is received (Column 19, Lines 37-65) in an analogous art of forecasting.

It would have been obvious to one skilled in the art at the time of the invention that the method taught by Makridakis et al. would have benefited from utilizing projected future demand when a minimum amount of historical data is received in view of the teachings of Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same

function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 14 Makridakis et al. teach a method further comprising filtering historical demand data to remove statistical outliers (Bullet 1, Page 121; Paragraph 2, Page 204).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Makridakis et al., Forecasting Methods and Applications (1998) in view of Roberts, Attribute Smoothing - A Pattern Forecasting Technique (1997) in view of Landvater, U.S. Patent No. 6,609,101 as applied to claims 4-5, 7-8, and 10-14 above and further in view of Leonard, Promotional Analysis and Forecasting For Demand Planning: A Practical Time Series Approach (2000).

Regarding Claim 9 Makridakis et al. teach a method further comprising separating demand data between seasonal (and other trends) and baseline demand (decomposing, detrending, obtain stationary series, etc.; Section 3/1, Pages 84-87; Figure 3-1; Section 3/7, Pages 125-126; Section 7/1/6, Page 322; Section 7/2/1, Page 326; Section 7/3/7, Page 346) .

Makridakis et al. does not expressly teach separating demand data between *promotion* and baseline data as claimed.

Leonard teaches a system and method comprising separating demand between promotion and baseline (stationary) data (Section 5 Promotional Analysis, Pages 7-8; Section 10, Page 11; Page 13; Figures 4, 5, 7) in an analogous art of forecasting (Abstract) and demand planning for the purpose of analyzing and forecasting promotions based on historical data (Paragraph 4, Page 1).

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Makridakis et al., Roberts and Landvater, with its ability to decompose demand data (e.g. time series observations) into its various components (e.g. seasonal, baseline demand) would have benefited from separating promotion and demand data in view of the teachings of Leonard, the resultant system/method enabling users to analyze and forecast promotions based on historical data.

Further since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

10. Claims 15, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al., U.S. patent No. 5,289,368 in view of Roberts, Attribute Smoothing – A Pattern Forecasting Technique (1997).

Regarding Claim 15 Jordan et al. teach an apparatus comprising (Figures 4, 6):

- means for calculating a first weighting factor of a first day of a first week (Column 6, Lines 61-68; Column 8, Lines 57-68; Column 9, Lines 1-10; "Forecasting is based on the statistical observation that the best single predictor of future call volumes in any given period is the corresponding period, by time of day and day of week, of previous weeks. The best predictor of next Monday at 10:30 a.m. is last Monday at 10:30 or rather the series of such recent time periods. The most current data available from the MIS. Indeed, if the forecast is being performed for example on Jan. 15, 1991, then the very best data for use in generating the forecast according to the invention is some period of time (e.g., 13 weeks) leading up to and ending Jan. 14, 1991. As will be seen, this is the technique implemented by the present invention. Moreover, the technique also recognizes and uses calendar variability factors, i.e., the fact that the relative position of a period in a month affects call volumes, to further weight the forecast. For example, often the first Monday in a month has a characteristically different volume from the third Monday. According to the invention, forecasting is carried out by determining the relative weight of these factors in the most current historical data, as determined by a statistical analysis.");

- means for calculating a second weighting factor of a second day of a second week based on the first weighting factor, the second week following the first week, the second day is a same day of the week as the first day (Column 8, Lines 57-68; Column 9, Lines 1-10; Column 9, Lines 55-68; Column 10, Lines 1-25, 44-68);

- means for calculating a third weighting factor of a third day of a third week based on the second weighting factor, the third week following the second week, the third day is the same day of the week and the first and second day (Column 8, Lines 57-68; Column 9, Lines 1-10; Column 9, Lines 55-68; Column 10, Lines 1-25, 44-68);

- means for calculating a forecasted and a projected demand (Column 7, Lines 5-55; Figures 4, 6); and

- means for dynamically updating the projected demand based on additional demand data (Column 4, Lines 52-58; Column 7, Lines 44-55).

Jordan et al. does not expressly teach that the first/second weighting factors being a first/second percentage of demand for the first/second day out of all the days in the first/second week as claimed.

Roberts teaches a system and method, in an analogous art of forecasting, comprising: calculating a first/second/third weighting factor of a first/second/third day of a first week as a first percentage of demand for the first/second/third day out of all days of the first week (Column 2, Paragraphs 1-2, Page 1; Figure on Page 1);

- calculating a forecasted and project demand (Column 1; Paragraphs 1-2, Page 1Coloumn 2, Page 3).

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by Jordan et al. would have benefited from calculating first/second/third weighting factors as a percentage of demand in view of the teachings of Roberts, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Further it is noted that It is noted that forecasting using any of a plurality of well known time intervals, including but not limited to day of the week, is old and very well known (e.g. Lee et al., U.S. Patent No. 5,712,985: Column 3, Lines 40-52; Column 13, Lines 47-64; Column 14, Lines 15-25; Grossman et al., U.S. Patent No. 5,436,965: Column 9, Lines 34-44, "The fifth parameter table is the smoothing parameter table which is used for performance forecasts and contact probability determination. The campaign optimizer performance *forecasts are produced by exponential smoothing for each hour of the day and each day of the week and the smoothing parameter, which determines how heavily weighted recent observations are*, is in the smoothing parameter table", emphasis added; Peharda et al., Short term hourly forecasting of gas

consumption using neural networks (2001): Paragraphs 2,4, Page 367; Figure 1; Table 1).

Regarding Claim 17 Jordan et al. teach an apparatus further comprising adjusting the first, second *or* third weighting factors based on additional demand data (Column 9, Lines 45-68; Column 10, Lines 1-25; Figure 6).

Regarding claim 21 Jordan et al. teach a apparatus further comprising means for receiving demand data (Figures 4, 6).

11. Claim 16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al., U.S. patent No. 5,289,368 in view of Roberts, Attribute Smoothing – A Pattern Forecasting Technique (1997) as applied to claim 15 above, and further in view of Landvater, U.S. Patent No. 6,609,101.

Regarding Claim 16 Jordan et al. does not expressly teach adjusting future demand forecast based on an out of stock calculation as claimed.

Landvater teaches a system and method further comprising adjusting future demand forecast based on an out-of-stock (shortfall, shortage, stock out) calculation (e.g. safety stock to avoid a stock-out/shortage; Column 3, Lines 40-48; Column 14, Lines 23-58) in an analogous art of forecasting for the purpose of avoiding out-of-stock situations.

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Jordan et al. and Roberts would have benefited from adjusting future demand based on an out of stock calculation in view of the teachings of Landvater, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding Claim 19 Jordan et al. does not expressly teach utilizing a smoothing factor to bias the second weighting factor in relation to the first weighting factor.

Landvater teaches a system and method wherein the smoothing factor biases the weighting factor in relation to the first weighting factor (Column 4, Lines 53-68; Column 11, Lines 53-68; Column 12; Figure 11).

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Jordan et al. and Roberts would have benefited from smoothing/biasing the second weighting factor base on the first weighting factor in view of the teachings of Landvater et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 20 Jordan et al. does not expressly teach that the intended use of the projected/forecasted demand is for output to a transportation route module as claimed.

Landvater teaches a system and method further comprising outputting the project demand to a transportation route determination module (Column 23, Lines 20-30) in an analogous art of forecasting.

It would have been obvious to one skilled in the art at the time of the invention that the system and method taught by the combination of Jordan et al. and Roberts would have benefited from outputting its forecasted/projected demand to any of a plurality of systems including but not limited to a transportation route determination module in view of the teachings of Landvater et al.; since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan et al., U.S. Patent No. 5,289,368 in view of Roberts, Attribute Smoothing – A Pattern Forecasting Technique (1997) as applied to claim 15 above, and further in view of Leonard, Promotional Analysis and Forecasting For Demand Planning: A Practical Time Series Approach (2000).

Regarding Claim 18 Jordan et al. does not expressly teach separating demand data between promotion and baseline data as claimed.

Leonard teaches a system and method comprising separating demand between promotion and baseline (stationary) data (Section 5 Promotional Analysis, Pages 7-8; Section 10, Page 11; Page 13; Figures 4, 5, 7) in an analogous art of forecasting (Abstract) and demand planning for the purpose of analyzing and forecasting promotions based on historical data (Paragraph 4, Page 1).

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by the combination of Jordan et al., Roberts and Landvater would have benefited from separating promotion and demand data in view of the teachings of Leonard, the resultant system/method enabling users to analyze and forecast promotions based on historical data.

Further since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it

did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 22, 25-26 and 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Landvater, U.S. Patent No. 6,609,101.

Regarding Claim 22 Landvater teaches a system and method comprising:

- forecasting a total demand for a time period (Column 4, Lines 1-34, 53-68; Column 8, Lines 63-68; Column 9, Lines 1-10);

- calculating (determining) a weighting factor for each of a plurality of subdivisions of the time period (Column 11, Lines 53-68; Column 13, Lines 2—29; Column 19, Lines 37-68; Column 20, Lines 1-20) based on an initialized weighting factor of an equal value for each of a plurality of initial subdivisions of an initial time period (Column 19, Lines 37-68; Column 20, Lines 1-20), the weighting factor being a percentage of the total demand for the subdivision of the plurality of subdivisions of the time period (Column 13, Lines 5-28; Figure 12); and

- projecting future demand, during the time period, for a subdivision based on the weighting factor and historical demand data (Column 11, Lines 53-68; Column 13, Lines 2-29; Column 19, Lines 37-68; Column 20, Lines 1-20).

- based on an initialized weighting factor to an equal value for each subdivisions of the time period

Regarding Claim 25 Landvater teaches a system and method further comprising multiplying total demand by the weighting factor and a ratio (percentage, fraction, etc.) of actual demand and forecast demand (Column 11, Lines 53-68; Column 12, Lines 41-68; Column 13, Lines 1-29; Column 19, Lines 40-68; Figure 12).

Regarding Claims 26 Landvater teaches a system and method further comprising adjusting future demand forecast based on an out-of-stock (shortfall, shortage, stock out) calculation (e.g. safety stock to avoid a stock-out/shortage; Column 3, Lines 40-48; Column 14, Lines 23-58).

Regarding Claim 28 Landvater teaches a system and method wherein the smoothing factor biases the weight factor in relation to historical demand (Column 4, Lines 53-68; Column 11, Lines 53-68; Column 12; Figure 11).

Regarding Claim 29 Landvater teaches a system and method further comprising selecting one or a forecast demand and a projected demand based on a threshold (target, benchmark, required, set, tolerances, etc.) value (Column 11, Lines 25-31; Column 18, Lines 3-14; Column 19, Lines 50-65; Column 20, Lines 17-20).

Regarding Claim 30 Landvater teaches a system and method wherein the threshold value is a ratio of cumulative sales data and cumulative forecast data for a subdivision of the time period (e.g. override percentages; Column 18, Lines 3-14; Column 19, Lines 50-65; Column 20, Lines 17-20).

Regarding Claim 31 Landvater teaches a system and method wherein the projected future demand is utilized when a minimum amount of historical data is received (Column 19, Lines 37-65).

Regarding Claim 32 Landvater teaches a system and method further comprising filtering historical demand data to remove statistical outliers (abnormal demands; Column 12, Lines 35-40).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landvater, U.S. Patent No. 6,609,1 as applied to claim 22 above and further in view of Makridakis et al., Forecasting Methods and Applications (1998).

Regarding Claims 24 Landvater teaches a system and method further comprising:

- applying a smoothing factor to new demand data to produce a first result (Column 4, Lines 53-68; Column 11, Lines 52-68; Column 12, Lines 35-68; Figure 11);

- aggregating a new demand data for the time period (Column 11, Lines 52-68; Column 12, Lines 35-68; Figure 11); and

- applying an smoothing factor to a previous weighting factor to generate a second result (Column 11, Lines 52-68; Column 12, Lines 35-68; Figure 11); and

- adding the first and second results (Column 11, Lines 52-68; Column 12, Lines 35-68; Figure 11).

While there are a plurality of commonly used and well known smoothing techniques (factors, weights, functions, algorithms, etc.) utilized in forecasting and statistical analysis Landvater does not expressly teach that the applied smoothing factor is an *inverted* smoothing factor as claimed.

Makridakis et al. teach a method for applying an inverted smoothing factor (Equation on Page 142; Equation 4.3; Last Two Paragraphs, Page 145; Figure 4-5) in an analogous art of forecasting.

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by Landvater with its utilization of well known smoothing techniques/algorithms would have utilized any of a plurality of well known smoothing approaches including but not limited to an inverted smoothing factor in view of the teachings of Makridakis et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

17. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over as Landvater, U.S. Patent No. 6,609,1 applied to claim 22 above and further in view of Leonard, Promotional Analysis and Forecasting For Demand Planning: A Practical Time Series Approach (2000).

Regarding Claims 27 Landvater teaches a system and method further comprising account for the effects of promotions on baseline (non-promotional periods, demand data (Column 2, Lines 10-27; Column 5, Lines 7-16, 38-48; Column 17, Lines 5-24; Figure 19).

Landvater does not expressly teach *separating* demand data between promotion and baseline demand as claimed.

Leonard teaches a system and method comprising separating demand between promotion and baseline (stationary) data (Section 5 Promotional Analysis, Pages 7-8; Section 10, Page 11; Page 13; Figures 4, 5, 7) in an analogous art of forecasting (Abstract) and demand planning for the purpose of analyzing and forecasting promotions based on historical data (Paragraph 4, Page 1).

It would have been obvious to one skilled in the art at the time of the invention that the method as taught by Landvater, with its ability to account for the effects of promotions would have benefited from separating promotion and demand data in view

of the teachings of Leonard, the resultant system/method enabling users to analyze and forecast promotions based on historical data.

Further since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT L. JARRETT whose telephone number is (571)272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley Bayat can be reached on (571) 272-6704. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott L Jarrett/
Primary Examiner, Art Unit 3624